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ABSTRACT

The Interdisciplinary General Education (IGE) Program at California State Polytechnic University is described in this report. The program is designed students in professional and math-based degree programs and offers an integrative-thematic approach to the humanities and social sciences components of the University General Education Program. It seeks to develop a learning community composed of faculty and students who have common goals and mutual aspirations. Participants can study both major coursework as well as courses that partially meet the University General Education requirement. Courses are team taught by faculty from a variety of disciplines and feature individualized instruction. Interactive pedagogy is emphasized, and active student learning requiring critical analysis of complex issues and concepts is encouraged. Attendance at off campus cultural events like concerts and museums is integral to the fulfillment of the aesthetic dimension of the program. Most alumni and learners surveyed say this program is helpful. IGE has received citations and commendations from several national associations prominent in American higher education. Several recommendations include: the need to reform general education should emerge from an informed faculty and not be imposed from top down on the faculty; each college and university must create its own institutional and intellectual world; and the emphasis should be on the significant issues, paradigms, and concepts of the human experience. (Author/SM)

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INTERDISCIPLINARY GENERAL EDUCATION PROGRAM

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AASCU/ERIC Model Programs Inventory Project

The AASCU/ERIC Model Programs Inventory is a two-year project seeking to establish and test a model system for collecting and disseminating information on model programs at AASCU-member institutions--375 of the public four-year colleges and universities in the United States.

The four objectives of the project are:

- o To increase the information on model programs available to all institutions through the ERIC system
- o To encourage the use of the ERIC system by AASCU institutions
- o To improve AASCU's ability to know about, and share information on, activities at member institutions, and
- o To test a model for collaboration with ERIC that other national organizations might adopt.

The AASCU/ERIC Model Programs Inventory Project is funded with a grant from the Fund for the Improvement of Postsecondary Education to the American Association of State Colleges and Universities, in collaboration with the ERIC Clearinghouse on Higher Education at The George Washington University.

ABSTRACT

The Interdisciplinary General Education (IGE) Program is designed for students in professional and math based degree programs and provides an integrative-thematic approach to the Humanities and Social Sciences components of the University General Education Program. Participants can study both major coursework as well as courses designed to partially meet the University General Education requirement. Courses are team taught by faculty from a variety of disciplines and feature individualized instruction. Interactive pedagogy is emphasized, and active student learning requiring critical analysis of complex issues and concepts is encouraged. Attendance at concerts, museums, and other off-campus cultural events is integral to the fulfillment of the aesthetic dimension of the program.

INTRODUCTION

The Interdisciplinary General Education program at Cal Poly seeks to develop a learning community, composed of faculty and students, who have common goals and mutual aspirations. These goals include the intention to be active, independent learners who can function within the discipline of scholarly investigation, and to desire the self-conscious development of their own intellectual capacity.

Thanks to the earnest efforts of a number of faculty and students at Cal Poly, the Interdisciplinary General Education program (IGE) was born six years ago, and has become increasingly recognized as a dynamic alternative to the often maligned "smorgasbord" approach to General Education, which often seems to foster competition between humanities departments for students, rather than to enhance learning.

Students who are majoring in degree programs in the Colleges of Engineering, Science, Environmental Design, Business, and Agriculture at Cal Poly are urged to consider taking their General Education coursework from the IGE. Rather than selecting courses from a litany of lists, areas, tracks, and concentrations, students may complete their social science and humanities requirements through participation in an integrated thematically-oriented learning adventure. In this pattern, 32 units of the 48 lower-division units required in GE are completed by enrolling in a single sequence of eight specially designed, team-taught courses, extending through two and one half years of the student's curriculum, while the student is also completing major courses.

BACKGROUND

STATEMENT OF THE PROBLEM

National Situation

The state of general education in American higher education has been the subject of numerous national reports and commission findings during the past several years.

The fragmentation of general education into discrete courses that lack a common purpose and intellectual coherence is a re-occurring theme in these reports. This incoherence is reflected in a pluralistic society where commonality and community appear difficult to achieve. The curriculum in higher education has become consolidated into academic majors as represented in the institutional entity of the department. Here specialization and vocationalism are reinforced and rewarded as the dual motives of higher learning. This emphasis encourages the dominant attitude of students who overwhelmingly value the instrumental acquisition of pragmatic knowledge that supports future vocational goals. The central questions of "what does it mean to be educated?" and "what are the common core learning components of a university education?" are rarely attended to in the ethos described above. General education is the one area that has the capacity to address these basic educational questions. The education of the informed citizen in a democracy is dependent upon the knowledge derived from general education. The central issues of the human condition often fall between the bureaucratic cracks of academic departments, who seek to duplicate their own kind by offering highly specialized curricula.

Local Conditions

In response to the Chancellor's Executive Order #338 which called for general education to be perceived as "interrelated elements, not as isolated fragments", a group of faculty from throughout the University worked during 1981-82 developing an integrated and interdisciplinary general education curriculum (76 quarter units) for a limited number of gifted students. Plans for implementation of this program have been delayed until the necessary internal university financial resources are available.

During 1982-83 a task force was appointed by the Vice President for Academic Affairs to review and modify the original proposal to see if alternative modes of implementation might prove more practicable. The task force met with school deans and department chairs across the university, all of whom expressed dissatisfaction with the fragmented, single discipline approach of the present traditional general education program. The Dean of the School of Engineering expressed the most acute and pressing need for a change. He felt that his students were not getting a coherent humanities and social science education, for example, but rather a mere cafeteria approach to these areas. Further, in the present fragmented curriculum, there is no consistent and related development of student's writing and communication skills. In addition to these faults of the current program, a serious and special problem exists for engineering: how to accommodate in four years both the numerous required courses for majors in this highly technical field and also the general education requirements.

On a broader scale, the institutional isolation of departments and disciplines has discouraged collaboration among faculty, especially regarding the development of an appropriate general education curriculum for students in our technical and professional schools. Even within the school, which offers many of the present general education courses for other schools, there has been a notable lack of collaboration of an interdisciplinary nature about what constitutes the best kind of general education curriculum for the non-liberal arts student. Highly motivated and gifted students in technical/professional fields seem particularly in need of an innovative, enriched, and academically challenging program, in contrast to the present system of unrelated introductory survey courses.

DESCRIPTION OF PROGRAM

The Interdisciplinary General Education (IGE) Program has existed as an integrated, team-taught 32 quarter unit program at California State Polytechnic University for six years. The program was developed for the educational needs of a large state polytechnic university. It exists as an alternative form of undergraduate general education for students seeking a thematically coherent investigation of complex ideas that cross disciplinary boundaries.

The program assumes responsibility for most of the general education requirements in communication in the English language, arts, literature, philosophy, social sciences, and U.S. history, constitution, and American ideals. The program has as its student population, students majoring in the technical/professional areas. A majority of the 350 students in the program are from the College of Engineering, a significant number from the Department of Architecture, and smaller numbers from the Colleges of Business Administration, Science and Agriculture. The only requirement for entrance into the program is a passing score on the English Placement Test. Students take a sequence of eight courses, starting as freshmen, for eight successive quarters, comprising a 2½ year program. They may take other general education courses in their major at the same time.

The courses investigate the central issues of the human condition, in a chronological exploration that activates primary texts and the knowledge bases of disciplines as resources. The first course in the sequence, taken at the beginning of the freshmen year, is entitled "Consciousness and Community: Origins and Development of Human Societies". Here the basic themes of the origins of human community and consciousness, myths of origins, symbols and ceremony, and the relationship of people to the environment are explored. The second course, "Rationalism and Revelations: The Ancient World", examines myth and history, looking at the central concepts of justice, freedom, tragedy, and humanism. Primary texts would include Plato's The Republic, Hosea, Amos, Job, Rig Veda, Brhadaranyka Upanishad, Bhagavad Gita, Sophocles, Homer, and the gospels of Matthew, Mark. The following courses involve such ideas as authority and faith, culture and contact: the expansion of the West, reform and revolution: the age of enlightenment, individualism and collectivism, the modern world and the concluding seminar. This last course provides the opportunity for individual and group research of an interdisciplinary project, involvement in community agencies, and the integration and synthesis of selected IGE themes.

All courses share the same basic learning goals. These goals include the comparative analysis of diverse cultures. Each course provides the opportunity to study both Western and non-Western cultures. The exploration of historical and social consciousness defines this educational goal as the student ability to demonstrate an awareness of how historical events and conditions can be interpreted in multiple ways, and of the need for rigor and systematic inquiry when undertaking any particular line of interpretation. The understanding and appreciation of aesthetic experiences reflects the need to demonstrate a flexibility of mind, a capacity to examine and compare works of art through different perspectives and the viewpoints of different disciplines. Another basic learning goal is the understanding and articulation of values. It is particularly important for students at a polytechnic institution to recognize and critically examine the normative aspects of technical and scientific knowledge. In addition, students should be able to recognize and critically examine the implications of their own actions and speech, both as citizens of a community and as future members of professional disciplines. Communication skills and critical thinking offers learning opportunities to develop a main idea, to sustain an argument with appropriate evidence, to choose language and syntax appropriate to the audience and purpose. Beyond that, the ability to use language as an instrument of creative thought and to synthesize diverse materials creatively is emphasized in all writing assignments.

The last learning goal represents the central philosophical tenet of the program. Participants should be able to assume, with confidence and understanding, responsibility for their own learning. They should be able to postulate their own questions and develop their own pedagogy, to undertake and sustain projects and carry out research independently. Abstract ideas and theories are attached to the personal and social reality of the student. They should be able to recognize themselves fully as authors of their learning, as autonomous seekers of knowledge and wisdom. Ultimately, the IGE Program seeks to attain a democratic learning community where the development of a social conscious is nurtured by the demonstration of civic virtue within this learning community.

The IGE Program continues to be an innovative force on campus, participating in a China Study Course, in which IGE students will spend six weeks in China. This will be an on-going academic program, in cooperation with a university in Beijing. The IGE Program has sponsored numerous seminars and workshops, bringing speakers on campus to address significant issues. Each year the program has an off-campus retreat, where a critical and reflective examination and discussion of programmatic and intellectual issues are shared.

The faculty involved in the program are primarily College of Arts faculty, with disciplines such as geography, sociology, english, music, art, dance, and philosophy represented. Faculty from environmental design and biology and other disciplines outside the humanities are now coming into the program to expand faculty participation. Each team is staffed so that different disciplines are represented. Each course, often composed of several teams, meet the quarter prior to the scheduled time, to plan and revise the course. Departments release faculty to teach in the program on a pay back formula of compensation. Departments cooperate in the staffing of the program. The IGE program does not have its own permanent faculty. The voluntary participation of invested faculty ranges from senior professors to part time faculty.

The IGE Program is analogous to a department in the governance of the College of Arts, receiving funding and budget allocations on the same basis as an academic department. The director of the program attends the regular meetings of the College of Arts department chairs. The program has permanent office space and a half-time secretary. The program has been internalized into the institution and is generally recognized as a distinguished and respected academic program. Continuing national and international recognition has reinforced the on-campus reputation of the program.

RESULTS

THE EVALUATION OF THE INTERDISCIPLINARY GENERAL EDUCATION PROGRAM

The Interdisciplinary General Education Program at Cal Poly, has been extensively involved in program assessment since its inception five years ago. Formative assessment procedures have been central to our approach. We have sought assessment approaches that provide qualitative as well as quantitative responses, keeping in mind that, as in any human enterprise, developmental improvement is based on continual critical reflection.

During the first two years of the IGE Program, 1983-1985, the program had an external evaluator as a result of being awarded two consecutive grants from the Office of Academic Improvement at the Chancellors Office. The external evaluator has served on three occasions for the IGE Program.

In this report, the external evaluator provides positive commentary regarding his involvement as evaluator, which consisted of thoroughly reading the student reports and interviewing each student at the end of the quarter. He states, "I was extremely impressed with the quality of student papers and oral presentations. The topics generally revealed commendable intellectual breadth and imagination". The evaluator continues by relating his long association with the IGE Program since 1983 and comments, "In talking in depth with many of your students, I saw many of the theories and abstractions discussed at Idylwild (IGE Retreats) and elsewhere come vividly to life. I mean no excessive flattery in this comment; my candid judgement is that IGE has reached new levels of educational success. There is every reason to believe that the program will serve as a model of interdisciplinary general education on campus throughout the CSU system, even throughout the nation". The evaluator recommends further strengthening of the writing component and provides several useful suggestions for improvement in this area. The IGE Program has responded to his most helpful suggestions by obtaining lottery funds during the 1988-89 academic year to provide released time to Professors Fite and Rocklin of the English Department to develop further materials and organize workshops for IGE faculty concerning the development of writing skills.

During the fourth year of our existence, we secured a third funding from the Office of Academic Program Improvement for the development of a comprehensive program assessment effort. The IGE Program was the only general education proposal funding in the CSU system for this purpose. The evaluator, after reviewing the proposal concludes that, "The IGE program at Pomona has received national recognition and praise, the assessment portion of the IGE should be regarded with the upmost level of importance by the Office of the Chancellor and the other 18 campuses."

Another important aspect of the extensive assessment program has been the survey taken in 1987 and 1988 by the Survey Research Class in the Behavioral Science Department. Surveys concerning the nature and quality of IGE learning/teaching experiences were taken of IGE students, alumni, and faculty.

Alumni Survey Results

Of the alumni who responded to the survey, 86.1 % felt the IGE program had been at least somewhat helpful in the development of their oral development skills. In the area of written communication skills, 44.4% of the responding alumni felt the IGE program had been very helpful. All respondents felt the program was at least somewhat helpful in this area. When asked how the IGE program had helped in their understanding of historical and social dimensions of human experience, approximately 95% responded that the program was at least somewhat helpful. When asked how the IGE program had enhanced their ability to analyze and reason, 97.2% of the respondents answered that the program was at least somewhat helpful. Approximately 97% viewed the IGE program as being at least somewhat helpful in developing their understanding of other cultures and cultural perspectives. When the alumni were asked how helpful the IGE program was in developing their understanding and appreciation of aesthetic experience, 86.1% of the respondents said the program was at least somewhat helpful.

Learner Survey Results

Concerning the development of student's oral and written communication skills, 13.1% of the students found the IGE program found the IGE program to be "very helpful". The majority of the students (83.4%) rated the program "helpful" to "somewhat helpful". The program was rated "very helpful" by 29.1% of the students, "helpful" by 41.2%, and "somewhat helpful" by 25.1% of the current students in developing their abilities to reason and analyze. The majority of the current IGE students viewed the program as being "helpful" in developing their understanding of historical and social dimensions of human experience. Approximately 93% of the students rated the program at least somewhat helpful. When asked to rate the IGE program on how helpful it had been in developing an understanding of other cultures and cultural perspectives, 95% of the students rated the program at least somewhat helpful. The most frequent response was "helpful" with 41.4% of the students checking this response category. In reference to the ability to analyze human values, approximately 94% of the students rated the program "somewhat helpful" or above. Of these students 48.2% rated the program "helpful" in this area. As active participants in the learning process, the students were asked how helpful the IGE program had been in their ability to integrate their knowledge and experience. Over 48% of the students replied that the program was "helpful". Approximately 20% of the students felt the program was "very helpful". When asked about effectiveness of the program, 46.7% of the students replied that the program was effective and 41.1% said the program was "somewhat effective". Approximately 7% of the students said the program was "very effective"

The Cal Poly testing office was requested to identify the success of IGE graduates in taking the Graduation Writing Test. The last graduating class of the IGE Program that took the entire sequence of eight courses completed the program, Winter, 1988.

The Testing Office provided the following information about the success rates of these students. Of the forty-one students who took IGE 222 Spring Quarter, 1987, thirty-seven passed the Graduation Writing Test. Four students failed the test. The success rate of 90% reflects the instructional efforts to develop writing expertise in the eight course sequence.

In staffing the first three courses of the program (IGE 120, 121, and 122), one member of each team is a faculty member from the English Department. The development of writing skills is one of the central learning outcomes of the program and descriptions of these learning outcomes are provided in the IGE Guidebook. Workshops for IGE faculty concerning the development of writing skills have been given at the annual IGE retreats.

The IGE Program has received citations and commendations from several national associations prominent in American higher education. It has also received recognition from the Chancellors Office and from professional organizations concerned with general education.

In his 1983 Fall Conference Convocation, "New Eras and Old Values", President LaBounty commented, "As a result of faculty dedication to the general education curriculum, we have been fortunate to receive a grant from the Chancellor's office to implement a pilot project - "Partners for General Education Excellence: General Education and the Humanities". This program, which will enroll over 100 students this fall, is predicated on a continuing interaction between School of Arts faculty and those in the professional schools. It clearly represents an imaginative attempt to offer a rigorous, integrative curriculum, resulting in a university-wide, cross-disciplinary cooperation. I encourage your interest and support for this creditable effort."

The IGE Program received a citation in the publication, "Models of Collaboration in Undergraduate Education", published by Brown University in 1985. This publication identified and described exemplary programs in American higher education that provided collaborative learning experiences for students.

The Association of American Colleges, in their publication, "The Forum for Liberal Education", in the March 1986 issue, cited the IGE Program as an outstanding model of interdisciplinary programs.

Chancellor Reynolds, in a letter to President LaBounty, in commenting on the recognition of the IGE Program by the Association of American Colleges, states that, "Integration of disciplinary approaches and active involvement of students in the learning process, as they have apparently been achieved in the Interdisciplinary General Education Program, put into practice key recommendations of 'Involvement in Learning', the 1984 report of the Study Group on the Conditions of Excellence in American Higher Education".

Frank Young, at that time, Associate Dean of Academic Program Improvement at the Chancellors Office, in a letter describing his visit to the IGE Program, states, "on March 14th, I was witness and party to a demonstration of student involvement in learning more moving than any similar experience in my recent memory. The occasion was a visit to the final class period in CPU (IGE) 221".

Each year since its inception, the IGE Program has concluded the year with a faculty/student conference, usually off campus. These 2-3 day retreats have been an invaluable faculty development experience, with both IGE faculty and invited distinguished faculty discussing the central issue of interdisciplinary education.

Each year the IGE Program has brought outstanding individuals to the campus to enrich the quality of our intellectual community. Among them has been Congressman George E. Brown, Dr. George Rousseau (UCLA), Dr. Carolyn Merchant (UC Berkeley), Dr. Roberta Markman, (Cal State Long Beach), Dr. Marilyn Waldman, (University of Ohio), and others. The university community has been invited to attend these events.

The IGE Program was named as one of eight outstanding programs that was selected for special commendation in the ninth annual competition for the G. Theodore Mitau Award for Innovation and Change in Higher Education by the American Association of State Colleges and Universities in 1987.

The IGE Program received national recognition by the Association of American Colleges in a recent publication, Unfinished Design: The Humanities and Social Sciences in Undergraduate Engineering Education. The third chapter of this publication describes thirteen promising programs, including the IGE Program.

The Meiklejohn Education Foundation published an article by four IGE students in their publication, Voices of Youth.

The Department of English and Foreign Languages has requested that the IGE Program form the general education requirements of a revised Humanities Major. This collaborative effort is the first College of Arts major that will require the IGE Program.

The IGE Program has been invited to give presentations to numerous international and national associations during the last several years. These professional organizations include: The Freshmen Year Experience National Conference (conducted by the University of South Carolina), Visions of Higher Education International Conference (Dalian, PRC), Improving University Teaching International Conference (Hiedelberg, Germany), International Conference on the First Year Experience (Newcastle upon Tyne, England) International Society for Philosophy and Psychotherapy (University of Hawaii), Far Western Philosophy of Education Conference (Long Beach, Santa Cruz, Calgary, Canada), Shakertown Invitational Conversations on General Education (Shakertown, Kentucky), The Association of General and Liberal Studies (Cincinnati and Wilkes Barre), The Association for Integrated Education, Lexington, Kentucky, (University of Pennsylvania) and many others. On several occasions IGE students and faculty made presentations about the IGE Program.

CONCLUSIONS AND RECOMMENDATIONS

The Cal Poly Interdisciplinary General Education Program, originally an experimental program that met with some initial resistance, has been successfully integrated into the institution. A significant number of faculty are committed to the success and future development of the program. We continue to attract some of the brightest entering freshmen, in a program that promises a rigorous and demanding learning experience. The IGE Program continues to be dynamic, with faculty refining and revising curriculum, choice of text material, and forms of instruction. The director receives constant correspondence from colleges and universities that are considering general education reform, requesting information and advice about both the process of change and the content of curricular reform. Representatives from the IGE Program have visited other campuses and given papers at regional, national and international conferences, where, aside from the formal presentations, contacts are made with interested faculty and information about the program is disseminated. The following recommendations are offered by the director of the program, Dr. Richard C. Jacobs, that pertain to the possibilities for the replication of the IGE Program on other campuses.

.....The need to reform general education should emerge from an informed and concerned faculty and not be imposed from top down on the faculty.

.....Each college and university must create their own institutional and intellectual world. The pride of authorship and the process of deliberation cannot be short-circuited by the import of another program. At the same time, the inevitable insularity of the individual institution can be diminished by the investigation of other viable models. The IGE Program would serve as a valuable resource and model in this regard.

.....The first step in the initial process of consideration should not be practicable or even reasonable, taking into account institutional resources, past traditions, and the immediate disposition of faculty. Rather the first step should be the visionary projection of the ideal curriculum for young people about to step into the 21st century. Global questions that incorporate normative and intellectual goals and aspirations can form a motivating and inspirational basis for stimulating intellectual reflection.

.....There must be a group of faculty, with broad intellectual interests, who can broker and mediate the proprietary interests of departmental and disciplinary concerns.

.....The emphasis should be on the significant issues, paradigms, and concepts of the human experience, with an open ended and problematic approach. This helps to avoid looking at curriculum as turf, to be divided up according to some fixed scheme. Curriculum as content encourages a perception of academic subjects as topical entities that are static commodities, ready for subdivision.

.....Methods may be developed to activate faculty as authentic learners, sufficiently secure and adequately supported, to pursue the possibilities for professional renewal and institutional reform. They must be encouraged to read the research literature and national commission reports pertaining to these broad questions. The definitions of professional responsibility must be extended beyond subject specialization to include an obligation to the level of excellence and sum total impact of the entire university and college experience on the students.